PRS11

MARKOV MODEL FOR COPD: COMPARING TREEAGE AND ARENA SOFTWARE AND VALIDATING THE MODEL

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OBJECTIVES: To develop a Markov model for an economic evaluation of a hypothetical intervention in chronic obstructive pulmonary disease (COPD), to implement it in TreeAge and ARENA in order to ensure its technical validity and to compare ease of implementation. **METHODS:** We used a 7-state Markov model (disease stages I to IV according to GOLD classification, post-surgery, post-transplantation and death) with a time frame of 60 years to assess incremental costs (€) and effects (life-years gained, LYG). Applying identical assumptions regarding transitions and costs, we ran Monte Carlo simulations with 10,000 patients for 100 replications in both packages. Additionally, we calculated expected values for the TreeAge model. **RESULTS:** In TreeAge, the simulation resulted in higher incremental costs and effects compared to ARENA ($p < 0.0001$). Standard errors in both packages were equal for effects, but slightly higher for costs in ARENA. For the TreeAge model, averaged simulated values of both costs and effects were close to the expected values, indicating adequate sample size. Run-time was slightly shorter in ARENA. Yet determining cost-effectiveness values was more convenient using TreeAge. **CONCLUSION:** Building a standard Markov model for cost-effectiveness calculations appears more comfortable in TreeAge. Useful tools for calculating and plotting the results of an economic evaluation are available and can easily be applied. In ARENA, users must implement these features themselves, yet the user is more flexible when classical Markov assumptions no longer hold.

PRS12

MAPPING THE EQ-5D FROM THE ST. GEORGE'S RESPIRATORY QUESTIONNAIRE IN A CLINICAL TRIAL OF COPD TREATMENTS—RESULTS FROM THE OPTIMAL TRIAL

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OBJECTIVES: Direct preference elicitation is uncommon in clinical trials of COPD treatments. Investigators have created an algorithm that estimates EQ-5D preference weights from the St. George's Respiratory Questionnaire (SGRQ) to permit the calculation of QALYs. **METHODS:** Using data from a placebo controlled randomized trial comparing three regimens: 1) tiotropium plus placebo; 2) tiotropium plus salmeterol; and 3) tiotropium plus salmeterol/fluticasone) in COPD, we examined the validity of estimated EQ-5D scores from the SGRQ. **RESULTS:** A total of 351 patients with complete SGRQ scores at each point in the trial were included in the analysis. The mean values of the SGRQ and the estimated EQ-5D revealed similar pattern across the three treatments over time. A scatterplot of the SGRQ scores versus the EQ-5D scores showed that although there was an underlying linear relationship, it was somewhat "stepped" as the conversion algorithm results in the estimation of the same EQ-5D utility value for a number of SGRQ scores. Given that the minimally clinical important difference (MCID) of the SGRQ is 4, it would be possiblethat one might lose an MCID response when converting to the EQ-5D (whose MCID is 0.03). This was not the case in 85% of the SGRQ MCID responders. Finally, to see if any of the above made a difference statistically, the SGRQ scores and the estimated EQ-5D scores were compared at the end of the study (52 weeks). For the predicted mean EQ-5D utilities, treatment arms 1 and 3 were significantly different. However, when using the SGRQ, treatment arms 1 and 3 and treatment arms 1 and 2 were significantly different. **CONCLUSION:** The conversion algorithm was judged to be sufficient. However, use of the algorithm resulted in a reduction in discriminatory ability of the estimated EQ-5D as compared to the SGRQ.

RESPIRATORY DISORDERS—Patient Reported Outcomes

PRS13

CEPOC STUDY: DIAGNOSTIC VALIDITY OF INDIRECT METHOS FOR COMPLIANCE ASSESSMENT IN COPD PATIENTS

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OBJECTIVES: Evaluate diagnostic validity of indirect methods of compliance assessment (Gold standard: number of doses applied per day) in COPD (Chronic Obstructive Pulmonary Disease) patients with inhaled regular medication. **METHODS:** Cohort study of 98 patients with follow up of sis months. Variables: age, gender, educational level, comorbidity, COPD staging (by SEPAR recommendations), prescribed drugs, and indirect methods for compliance assessment (Morisky-Green test, Batalla test), and count of number of doses applied per day as gold standard (electronic count or perforated pills number). **RESULTS:** Predominace of males, with mean age of 69 years (CI 95% 67–72); low cultural level, 23% smokers (28 cigarrettes/day [CI 95%, 26.73–30.67]) Overweight (Body Mass Index 29 kg/m2 [CI 95%, 29.1–30.1]). Seventy-five percent of patients are in mild-moderate severity stage with predominance of mixed respiratory pattern; FEV1 (mean) 53.99 (IC 95% 50.07–57.91). A total of 1.67 exacerbations per year [IC 95%, 1.31–2.03]. Pharmacological treatment: inhaled anticholinergic 89.8% patients inhaled beta2-adrenérgic 86.7% patients, inhaled corticosteroids 70.4% patients; xantins 16.3% patients, oxygen therapy 5.1% patients; oral corticosteroids 1% patients, mucolytics 2% patients. Sixty-six percent patients (67.3%) completed follow-up. Compílance prevalence: gold standard: 57.6%; Morisky-Green test 50.8% sensibility 58%, specificity 67%, likelihood ratio for positive result 1.76; Batalla test 63.1%; sensibility 83%, specificity 70%, likelihood ratio for positive result 2.76. When consider together both indirect METHODS: sensibility 50%, specificity 89%, likelihood ratio for positive result 4.54. **CONCLUSION:** Indirect methods for compliance assessment are valid and applicable in clinical follow-up of patients with COPD.

PRS14

THE IMPACT OF SALMETEROL/FLUTICASONE PROPIONATE COMBINATION ON QUALITY OF LIFE OF ASTHMA AND COPD PATIENTS

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OBJECTIVES: The objective of this study was to examine the impact of salmeterol/fluticasone propionate combination (SFC) on the health related quality of life (HRQOL) of patients with respiratory diseases. HRQOL data is not often collected when examining the impact of treatment in Ireland eventhough improving HRQOL is one of the main objectives of treatment of chronic diseases. **METHODS:** This was a non-interventional, observational cohort study that recruited 113 patients attending